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had no doubt that in that case, and in similar ones if they were repeated, four strong roots had grown out at nearly equal distances, and the mass of cells nearest to these roots had an advantage in nutrition. We saw this in the trees of our own forests. Just in proportion to the vigor of the roots below was the thickness and irregularity of the trunk for a considerable distance above. If these trees had but four main roots of equal strength at equal distances, a portion of the trunk would be about square.

Mr. J. H. Redfield inquired whether Mr. Meehan would class cypress knees among the excrescences he had described?

Mr. Meehan replied not, as they were an outgrowth from the normal woody system of the roots of the tree, while the excrescences originated in the liber, or the tissue very closely allied thereto.

Pickeringite from Colorado.—Mr. E. Goldsmith stated that he has observed, in the Mineralogical Collection of the Academy, a white mineral which had not been determined. His examination, which was principally a chemical analysis, proved it to be the above-named species. As Peru and Nova Scotia are localities where this mineral has been found previously (see Dana's Descriptive Min., p. 653), this seems to be the first observation of Pickeringite in the U. S. Dr. John LeConte collected it. The particular note on his label is, near Monument, near Colorado City, Col. Terr.

The mineral is crystallized in very thin needles, which can only be seen when it is broken; these crystals keep within the mass well. Externally it is apt to become powdery. Its taste is astringent.

Hardness about = 1.
Specific gravity in oil of turpentine = 2.0105
" " " water = 1.7290

In the flame reaction he noticed the presence of sodium and potassium. The last element has been noticed by How in the Pickeringite from Nova Scotia. Sodium seems not to exist in the compound found in Nova Scotia or Peru.

The blowpipe reaction indicated water, alumina, and sulphuric acid.

The qualitative analysis proved also the occurrence of a minute quantity of proto and sesquioxide of iron, and magnesia was recognized to be in the solution.

The quantitative analysis gave this result:—

$\dddot{S}$ = 38.69 per cent.
$\dddot{\bar{A}}l$ = 11.90 "
$\dot{M}g$ = 4.89 "
(Ka) $\dot{N}a$ = 0.68 "
Sand = 1.90 "
By difference $\dot{H}$ = 41.94 "
100.00 "

He was inclined to believe that the average sample had lost some water of crystallization.

An attempt was made to separate the potassa from the soda, which were both in combination with chlorine, but the reagent applied failed to affect it. The chloride of potassium could have been but a trace. Having also observed that the quantity of iron in the mineral was small, it was considered useless to measure it.

Epsomite on Brick-walls.—Mr. Goldsmith remarked, with the beginning of the cold season the brick-walls of Philadelphia often become coated with a whitish incrustation. The supposition was current, to some extent, that the incrustation was a mixture of chloride and nitrate of sodium.

Mr. W. H. Dougherty, of this city, collected, in the beginning of December, a sufficient quantity of it, and examined it chemically; to his surprise he found that it reacted strongly on magnesia and sulphuric acid. The gentleman handed to Mr. G. some of the substance, which the latter redetermined. The result was the same. The epsomite contained besides, as an impurity, a small quantity of sodium, potassium, and chlorine.

Mr. Dougherty endeavored to trace out the origin of the epsomite, and analyzed some mortar which he collected from a wall that had on its surface this soluble salt. The reactions obtained proved that it was present. When fresh mortar was treated in the same way the presence of magnesia was recognized, but sulphuric acid was not found in it.

The idea that sulphuric acid, in a free state, could be present in bricks is improbable; hence, a plausible hypothesis is offered to explain its presence: The coal and gas used in the city contain small quantities of sulphur, which, when burnt, is oxidized into sulphuric acid, and this, being precipitated on the wall, will eventually also touch part of the mortar, out of which it will extract the magnesia, and thus form epsomite. From this explanation it may be inferred that the lime in the mortar cannot be any longer caustic, for caustic lime will not permit the sulphuric acid to combine with magnesia, as long as it is present in the mixture. The lime in mortar is converted into silicate of lime, but whether the magnesia is also changed into a silicate is, I presume, not known at present.

DECEMBER 26.

The President, Dr. RUSCHENBERGER, in the chair.

Seventy-four members present.

The following papers were ordered to be printed:—